PROPOSED BOARD ORDER

STATE OF MAINE
BOARD OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION
AUGUSTA, ME 04333

IN THE MATTER OF

EVERGREEN WIND POWER III, LLC	) SITE LOCATION OF DEVELOPMENT ACT
Lincoln, Lee, Winn, Burlington,	) NATURAL RESOURCES PROTECTION
Mattawamkeag, Penobscot County	)
ROLLINS WIND PROJECT	) APPEAL
L-24402-24-A-Z denied	) FINDINGS OF FACT AND ORDER
L-24402-TH-B-Z denied	
L-24402-IW-C-Z denied	

Pursuant to the provisions of 38 M.R.S. Sections 344 and 341-D (4) and Chapter 2, Section 24 (B) of the Department of Environmental Protection's regulations, the Board of Environmental Protection has considered the appeal of the FRIENDS OF LINCOLN LAKES, (FOLL), Larry Arthurs, Mike Dicenzo, Rachel Dicker, Harry Epp, Elaine Goodwin, Harold Goodwin, Joan Goodwin, Joanne Hinkelman, Gordon Johnson, Rick Kraul, Karl McGillvray, Marjory Mitchell, Mary Beth Nolette, Don Smith, and Gary Steinberg, hereinafter collectively "appellants," its supportive data, the response of the applicant and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROCEDURAL HISTORY:

On October 30, 2008, Evergreen Wind Power III, LLC (Applicant) filed a Site Location of Development Law (Site Law) and two Natural Resources Protection Act (NRPA) applications to obtain permits to construct the Rollins Wind Project in the Towns of Lincoln, Lee, Winn, Burlington, and Mattawamkeag. The applications were for the construction of a 60-megawatt (MW) wind energy generation facility. The proposed wind generation facility included the construction of two wind turbine clusters; the construction and upgrade of two permanent access roads; forty turbine pads; four permanent meteorological towers; a 43,200 square foot electrical substation; a 34.5 kV overhead collector line among the turbines; a 34.5 kV, 5.4 mile connector line between the North and South portions of the project; a 115 kV, 8.8 mile transmission line; and a 9,000 square foot Operations and Maintenance (O & M) facility. The proposed Rollins Wind Project is an expedited wind energy development as defined by 35-A M.R.S.§ 3451 (4).

On February 11, 2009, the Department held a public meeting in Lincoln to receive public comment on the proposed project. The Department approved the application on April 21, 2009 in Orders #L-24402-24-A-N, L-24402-TH-B-N and L-24402-IW-C-N.

On May 21, 2009, the appellants filed an appeal of the Department's decision to the Board. As part of this appeal, the appellants requested that the Board hold a public hearing.

2. STANDING:

The appeal was filed in the name of an association of property owners in the vicinity of the proposed project, known as Friends of Lincoln Lakes, (FOLL), as well as in the name of individuals from that association. FOLL is comprised of individuals who are both seasonal and year-round property owners, all of whom reside in the Town of Lincoln. For the purposes of this appeal, the individuals from FOLL include the individuals listed above. The appellants explain in their appeal that "it was thought to be prudent to include individual members of FOLL as appellants and their statements about how they are aggrieved parties … in the appeal…, however, if the Board formally recognizes FOLL as an entity with standing, then ….the individual appellants will withdraw as appellants in favor of FOLL."

Based on the information submitted by the association, the Board finds that the appellants, both as individuals and as a group have alleged sufficient particularized injury pursuant to Chapter 2, Section 1(B) to bring this appeal before the Board. The appellants will be collectively referred to as FOLL or the appellants.

3. FINDINGS & CONCLUSIONS OBJECTED TO:

The appellants object to the Department findings and conclusions relating to the following:

A. Noise; and
B. Wildlife.

4. BASIS FOR APPEAL:

The appellants assert that the Department erred in its findings that:

A. The applicant made adequate provisions to ensure that noise standards pursuant to the Site Location of Development Rules, Chapter 375(10) were met; and

B. The applicant avoided and minimized impacts to significant wildlife habitats to the greatest extent practicable.

5. REMEDY REQUESTED:

The appellants request that the Board hold a public hearing and reverse the April 21, 2009 Department decision approving the Rollins Wind Project in the Towns of Lincoln, Lee, Winn, Burlington and Mattawamkeag.

6. REQUEST FOR A PUBLIC HEARING:

The permit applications were filed on October 30, 2008 and the Department subsequently received 36 requests from interested parties that a public hearing be held. The requests for a

public hearing were considered carefully by the Department and, in a letter dated January 9, 2009, the Department notified all interested parties that a public hearing was not appropriate due to the fact that the interested parties had failed to present credible conflicting technical information regarding the licensing criteria to the Department. However, due to the considerable public interest and in accordance with 38 M.R.S. § 345-A(5) the Department agreed to hold the public meeting to provide the public with an opportunity to speak and to submit information to the Department, with that information becoming part of the record concerning the project. On February 11, 2009, the Department held a public meeting in Lincoln to receive comment on the application.

In this appeal, the appellants request that the Board hold a public hearing. Public hearings are discretionary pursuant to Chapter 2(7)(B). During the five and one-half month period of the review of the applications, the appellants had ample opportunity to present information and argument to the Department and availed themselves of that opportunity both at the public meeting and through submittal of additional information during the review process. At the public meeting, participants submitted information to the Department that was included in the project file and considered by the Department. The appellants submitted information related to noise, impacts to wildlife, vernal pools and wetlands, economic feasibility, historic sites, blasting, erosion control and water quality.

The Board finds that the record is adequately developed with regard to the statutory criteria, that a hearing is not necessary for the Board to understand the evidence, and that the appellants did not demonstrate that there is sufficient conflicting technical evidence on the applicable permitting criteria to warrant a public hearing.

7. RESPONSE TO APPEAL:

A. NOISE:

(1) The appellants contend that the sound level study that was submitted by the applicant was flawed and incomplete and failed to consider mitigating sound factors that are inherent to wind turbines such as low frequency sound. The appellants contend that the granting of the permit was unsupported by substantial evidence in the department record regarding the ability of the proposed project to meet the noise regulations adopted pursuant to the Site Law, Chapter 375 § 10. The appellants further argue that they submitted credible conflicting technical information to the Department regarding research on turbine noise that conflicted with the conclusions in the applicant's sound level study, that the Department and its outside peer review agent failed to adequately consider this information during the review of the applications and that the Department did not consider the potential deleterious health effects related to noise radiation from the project.

(2) The applicant submitted a sound level study entitled "Sound Level Assessment", completed by Resource Systems Engineering, ("RSE"), dated October 30, 2008. The sound level study was conducted to model expected sound levels from the proposed

Rollins Wind Project and to compare the model results to operational standards pursuant to the Site Law Rules, Chapter 375 §10.

RSE developed an acoustic model for the proposed Rollins Wind Project using the CADNA/A software program to map area terrain in three dimensions, locate the proposed turbines, and calculate outdoor sound propagation from the wind turbines. Area topography and wind turbine locations were provided to RSE by Stantec based on United States Geological Survey (USGS) topographic information and project design. RSE calculated the sound level estimates based on simultaneous operation of the GE 1.5 sharp leading edge (sle) wind turbines at all 41 prospective turbine locations operating at full power as defined by GE Energy. These moderate to full load conditions typically exist when wind speeds are at or above 20.1 miles per hour at the turbine hub. The wind turbines were treated as point sources at the hub height of 262 feet above base grade elevation using sound power levels from GE Energy. The sound level estimates were based on the operating sound level at full power plus an uncertainty factor of an additional 2 dBA. The additional 2 dBA was added to the sound level estimate calculation by RSE, based on the manufacturer's specifications and measurements by RSE of similar turbines during full operation.

The Site Law Rules, Chapter 375 § 10, establish hourly sound level limits at facility property boundaries and at nearby protected locations. Protected locations are defined in accordance with Chapter 375 § 10 G (16) as "any location accessible by foot, on a parcel of land containing a residence or approved subdivision..." In addition to residential parcels, protected locations include but are not limited to schools, state parks, and designated wilderness areas.

The hourly equivalent level ($L_{Aeq\text{-}Hr}$) resulting from routine operation of a development is limited to 75 dBA at any development property boundary as outlined in Chapter 375 § 10 C (1) (a) (i). The hourly equivalent level sound limits at any protected location varies depending on local zoning or surrounding land uses and existing (pre-development) ambient sound levels. At protected locations within commercially or industrially zoned areas, or where the predominant surrounding land use is non-residential, the hourly sound level limits for routine operation are 70 dBA daytime (7:00 a.m. to 7:00 p.m.) and 60 dBA nighttime (7:00 p.m. to 7:00 a.m.). At protected locations within residentially zoned areas or where the predominant surrounding land use is residential, the hourly sound level limits for routine operation are 60 dBA daytime (7:00 a.m. to 7:00 p.m.) and 50 dBA nighttime (7:00 p.m. to 7:00 a.m.). In addition, where the daytime pre-development ambient hourly sound level is equal to or less than 35 dBA "Quiet Locations", the hourly sound level limits for routine operation are 55 dBA daytime (7:00 a.m. to 7:00 p.m.) and 45 dBA nighttime (7:00 p.m. to 7:00 a.m.). In all cases, nighttime limits at a protected location apply up to 500 feet from sleeping quarters.

In recognition of the rural nature of the site, the applicant opted to apply quiet limits of 55 dBA daytime (7:00 a.m. to 7:00 p.m.) and 45 dBA nighttime (7:00 p.m. to 7:00 a.m.) at

all nearby protected locations in accordance with Chapter 375 §10 (H) (3) (1), even though pre-development ambient sound levels under weather conditions suitable for wind turbine operation can exceed area thresholds of 45 dBA daytime and 35 dBA nighttime.

Sound levels from the wind turbine operation were calculated for five protected locations (receiver points R1-R5) in the vicinity of the Rollins Wind Project as depicted on the set of plans the first of which is entitled "Vicinity Site Plan (1 of 2), prepared by RSE and dated October 30, 2008. The applicant also identified six residential structure locations (D1-D6) that are located closer to the wind turbines than the receiver points R1-R5 on Rollins South as depicted on a plan entitled "Estimated Sound level Contours Rollins South Excerpt", prepared by RSE as a Supplement dated April 2, 2009. Three of the identified locations, D2, D4 and D5 are either owned by the applicant or subject to executed lease agreements with the property owner. These locations were considered part of the project site and therefore not subject to sound level limits in accordance with Chapter 375 §10 (C) (5) (s). For the other three locations, D1, D3 and D6, the applicant submitted executed perpetual easements that grant the applicant the right to have sound generated from the wind power project impact the property (the "servient land") and exceed otherwise applicable state or local maximum sound level limits.

In order to determine what sound levels would occur at the five identified protected locations, the applicant's model calculated the attenuation of sound as it travels between the turbine and the protected locations. The sound level attenuation was calculated by the acoustic model in accordance with an international standard known as ISO 9613-2 "Attenuation of sound during propagation outdoors". ISO 9613-2 is commonly used for predicting sound levels from noise sources for moderate downwind conditions in all directions. For the Rollins Wind Project, the applicant's prediction model calculated attenuation in consideration of distance, atmospheric absorption, and intervening terrain, and factors were applied for ground absorption of noise assuming a mix of hard and soft ground. To be conservative in calculating attenuation, the surfaces of nearby lakes were specifically mapped and assigned zero ground absorption as appropriate for a hard, reflective surface. In addition, the model calculations excluded attenuation from foliage, which has the potential to reduce sound levels.

The stated accuracy of sound level attenuation calculations per the ISO 9613-2 standard is plus or minus 3 dBA. In order to compensate for any inaccuracy inherent in the calculation and measurement methods, the applicant added 3 dBA to the specified sound power levels. This is in addition to the 2 dBA uncertainty factor from the manufacturer's specifications described above. Consequently, the overall adjustment to the rated sound power levels from the manufacturer's specifications was plus 5 dBA.

Using the model, the applicant calculated sound level contours for operation of the proposed Rollins Wind Project for the entire study area surrounding the proposed project. The analysis identified the predicted sound level based on full operation for the five identified protected locations within the vicinity of the project site. Based on these

results, the applicant determined that the proposed Rollins Wind Project will be in compliance with the maximum nighttime noise limit of 45 dBA established in Chapter 375 §10 (C) (1) (5) all protected locations.

As part of the study, RSE also considered short duration repetitive (SDR) sounds pursuant to the Department's regulations. SDR sounds are a sequence of sound events, each clearly discernible, that cause an increase of 6 dBA or more in the sound level observed before and after an event. SDR sound events are typically less than 10 seconds in duration and occur more than once within an hour. When routine operation of a development produces SDR sound, 5 dBA is added to the observed levels of the SDR sound for purposes of determining compliance with applicable noise limits pursuant to Chapter 375 § 10 (C) (1) (e). Measurements and observations by RSE during actual wind turbine operations at other facilities indicate that sound levels can fluctuate over brief time periods as noted by the passage of wind turbine blades, however, the observed measurements indicated that these sound level fluctuations typically range from 2 to 4 dBA and thus the applicant concluded that the sound levels would not result in the 6 dBA increase required to be an SDR sound as set forth pursuant to Chapter 375 §10 (C) (1) (e).

(3) The appellants submitted verbal and written comments to the Department concerning noise during the Department meeting held on February 11, 2009 and throughout the review of the permit applications. Among the materials submitted were papers entitled: "Noise Radiation From Wind Turbines Installed Near Homes: Effects on Health", written by Barbara J Frey, BA, MA and Peter J. Hadden, BSc, FRICS; "The How To Guide to Criteria for Siting Wind Turbines to Prevent Health Risks From Sound", written by George W. Kamperman. P.E. and Richard R. James, INCE; "Health Effects of Wind Turbine Noise", written by Nina Pierpont, MD, PhD; and "Tuning and Sensitivity of the Human Vestibular System to Low-Frequency Vibration", written by Neil Todd, Sally Rosengren and James Colebatch. In their comments, the appellants pointed to the research papers as providing substantial evidence that human health effects and sleep disturbance can be linked to infrasound and low frequency sound less than 250 Hz which are produced by industrial wind turbines such as the ones proposed as part of the Rollins Wind Project. Infrasound is sound that is generally considered to be less than 20 Hz, the normal limit of human hearing.

In addition, the appellants raised concerns regarding the Chapter 375 §10 compliance standard of 45 dBA at protected locations and the applicant's justification for utilizing a point source calculation in the development of the noise attenuation model. They stated that the dBA standard, or A-weighting, is not accurate at measuring the sound generated from wind turbines and further that the Department should measure compliance based on a dBC standard, or C-weighting, which emphasizes sound at frequencies less than 250 Hz. Further, the appellants stated that research has shown that noise will travel further with line source calculations and generally acceptable scientific practices indicate that a line source calculation should have been used in the noise prediction model for all protected locations that are parallel to the axis of a wind turbine string.

(4) In response to the concerns raised by the appellants regarding the potential health effects from the project and the questions raised about the accuracy of the applicant's noise attenuation model and subsequent conclusions, the Department solicited review comments from the Maine Center for Disease Control (MCDC) within the Department of Health and Human Services (DHHS) and contracted with EnRad Consulting (EnRad) to provide an analysis, in the form of a peer review of the sound level assessment that was submitted by the applicant. The MCDC and EnRad were provided with all pertinent information included within the Department permitting record.

The MCDC commented that, according to a 2003 Swedish EPA review of noise and wind turbines, interference and noise-induced hearing loss is not an issue when studying the effects of noise from wind turbines as the exposure levels are too low. The MCDC further stated that it could find no evidence in peer-reviewed medical and public health literature of adverse health effects from the kinds of noise and vibrations associated with wind turbines other than occasional reports of annoyances. Most studies on the health effects of noise had been done using thresholds of 70 dBA or higher outdoors, much higher than what is seen in wind turbines. With regard to sleep disturbance, the World Health Organization (WHO) guidelines for community noise recommend that outdoor noise levels in living areas for nighttime not exceed 45 dBA, which is consistent with Maine law.

In its comments, EnRad concluded that the applicant's noise assessment for the Rollins Wind Project was essentially reasonable and technically correct according to standard engineering practices and Chapter 375 §10. EnRad noted that the wind project prediction model based on CADNA/A software with incorporation of an uncertainty factor of plus 5 dBA and the intentional omission of possible attenuating factors (absorptive cover, lake surfaces and foliage) utilizing a point source methodology yielded a reasonably conservative estimate for hourly sound levels. In response to questions raised by the appellants regarding the appropriate use of a line source calculation methodology EnRad stated that: "the difference between point source analysis and line source analysis is insignificant, therefore, the point source method has been appropriately used by the applicant in the assessment study."

EnRad stated that selected protected location sound level estimates from routine wind turbine operation would range from 39-45 dBA. Actual measured sound levels will vary substantially with wind speeds/directions, subsequent to microphone interference and numerous wind generated noise. Wind speed generally varies with elevation and may contain both horizontal and vertical components. Sound level measurements taken during turbine operation levels at near maximum power will occur under a wide range and type of wind speeds. The measurement periods will be characterized by times when the wind turbines are completely inaudible due to high ambient noise and other times when surface level operation noise is more prominent. Accurate, measurement-derived operation sound levels can only be made when conditions permit a clear separation

between operation and background noise. Tonal and short duration repetitive sounds are not expected based on the manufacturer specifications, however, short duration repetitive sounds may occur as a result of amplitude modulation during some conditions.

Wind turbines, rotating under conditions necessary for power generation, produce a measurable broadband amplitude modulation of sound at +/- 1 Hz. The audible sound can generally be characterized as a "swoosh" or "thump" and is connected to the frequency of the down stroke of the rotating wind turbine blades. EnRad states that the Rollins Wind Project's prediction model based on CADNA/A software yields an estimate that does not take into account the potential excessive amplitude modulation under stable atmospheric conditions, which may produce enough short duration repetitive (SDR) sound to invoke the 5dBA penalty for SDR sounds pursuant to Chapter 375 §10 (C) (1) (e). Amplitude modulation is not a factor that is within the scope of models that calculate outdoor sound propagation. As a result, EnRad recommended that the Department require the applicant to conduct further evaluation for excessive amplitude modulation and the potential for SDR sound that might trigger application of the 5 dBA penalty. If SDR sounds occur for a significantly large percentage of time, application of the 5 dBA penalty could result in protected locations R2 and R3 exceeding the 45 dBA sound level limit.

In consideration of the comments from EnRad and the potential for SDR sounds to occur, and to ensure that the 45 dBA hourly sound level limit is met during all conditions, the applicant submitted a compliance assessment plan entitled "Rollins Wind Project Wind Turbine Sound Compliance Assessment Plan Final Revised" (the assessment plan), prepared by RSE and dated April 6, 2009. The assessment plan outlined an operational compliance assessment methodology for use during very selective, meteorological and background sound conditions. The compliance assessment method will enable compliance measurements to be determined under the most favorable conditions for sound propagation and maximum amplitude modulation. The assessment plan was developed in consultation with EnRad and the Department and implementation of the plan is a condition of the Department licensing decision.

EnRad commented that infrasound has been widely accepted to be of no concern below the common human perception threshold of 85-90 dBG for non-pure tone sounds. Numerous national infrasound standards limit industrial facilities, impact equipment and jet engines, but wind turbine infrasound levels fall far below these standards. Furtber, the A-weighting scale is widely used in noise ordinances and sound control regulation. The introduction of C-weighting for the assessment of wind turbine sound is preliminary and unrefined on a broad basis.

(5) The Board has considered the information in the record, including evidence provided by the appellants and comments from the MCDC and EnRad. Given that the applicant: submitted a detailed sound level assessment model which meets standard industrial sound modeling protocols; that the surfaces of nearby lakes were specifically mapped and

assigned as zero ground absorption as appropriate for hard, reflective surfaces; that the model calculations exclude attenuation from foliage, which has the potential to reduce sound levels; that the applicant compensated for the inaccuracy inherent in the calculation and measurement methods by adding 3 dBA to the specified sound power levels and an additional 2 dBA based on uncertainty from the manufacturer's specifications, providing an overall adjustment to the rated sound power levels of plus 5 dBA, the Board finds that the applicant has demonstrated that the proposed development can be constructed such that it is in compliance with the 45 dBA sound level limit required pursuant to Chapter 375 § 10 provided that it accounts for potential SDR sound that may be present due to excessive amplitude modulation through the implementation the operational compliance assessment methodology entitled "Rollins Wind Project Wind Turbine Sound Compliance Assessment Plan Final Revised." The Board finds that the applicant has made adequate provisions to ensure that noise standards pursuant to the Site Location of Development Rules, Chapter 375 §10 are met.

B. WILDLIFE:

(1) The appellants argue that the applicant failed to conduct sufficient wildlife studies to demonstrate that there would be no unreasonable impacts from the project on wildlife in the vicinity of the project. Further, the appellants argue that the Department failed to require the applicant to submit a detailed habitat plan demonstrating how eagles in the vicinity will be protected, alleging that the potential adverse impacts should have precluded the Department from granting an NRPA permit for this project. The appellants further argue that the project would impact bald eagles and violate federal laws protecting them.

(2) During the initial planning stages of the proposed project, the applicant conducted an evaluation of the wildlife habitat in the areas surrounding the proposed project and identified concerns related to significant vernal pools (SVPs), inland wading bird and waterfowl habitats (IWWHs), deer wintering areas (DWAs), and migratory birds, bats and raptors, including bald eagles. During the fall of 2007 and the spring of 2008, the applicant conducted rare, threatened, and endangered (RTE) species surveys for plant and animal species concurrently within the proposed delineated project area. The applicant also conducted a raptor survey (including bald eagles), in which a total of 8 bald eagle nests were located, all of which have been mapped by the Maine Department of Inland Fisheries and Wildlife (MDIFW) and are located within approximately 5 miles of the proposed project site. No mapped bald eagle nests were found to be located within the proposed project area. The results of the applicant's diurnal raptor surveys indicate that passage rates of raptors is low compared to other sites in the area and that this low rate is likely due to the lack of large landscape features that would concentrate raptor migration activity.

The applicants conducted the pre-construction avian, bat and raptor (including eagles) survey efforts using the "Methodologies for Evaluating Bird and Bat Interactions with

Wind Turbines in Maine", dated April 12, 2006, which outlines the accepted methodologies for conducting studies, as approved by MDIFW.

The applicant had initially intended to develop Rollins North and Rollins South in two separate phases, with Phase I comprising Rollins North and Phase II comprising Rollins South. Because the applicant was only initially planning to develop Rollins North, the avian, bird and raptor (including eagles) study was focused solely on the Rollins North project area. When the applicant decided not to phase the project, but rather to combine the Rollins North and Rollins South projects into one single project, the applicant consulted with MDIFW, who determined that a separate study for the Rollins South project area would not be required due to the similarity of the two locations.

Based on the surveys that were conducted, the applicant concluded that the operation of wind turbines in the proposed project area would not pose a significant threat to birds, bats or raptors (including eagles) as the overall data collected on the proposed project site indicates that this project is not located in an area of significant bird and bat migration and that the construction of the project will not significantly impact any populations of these species.

(3) The appellants submitted verbal and written comments to the Department regarding wildlife concerns during the Department meeting held on February 11, 2009 and throughout the review of the permit applications. The majority of the information that was submitted by the appellants was in the form of statements that were made by the individual appellants, expressing their concerns about the impacts of the project on wildlife living in the vicinity of the project site. One of the appellants submitted a paper, entitled: "Palmated antlers of moose may serve as a parabolic reflector of sounds", written by George A. Bubenik and Peter G. Bubenik.

In their comments, the appellants raised concerns with regard to the validity surrounding the nocturnal radar surveys, diurnal raptor surveys, and acoustic bat surveys that were conducted by the applicant in 2007 and 2008 on Rollins North, and the fact that the applicant did not conduct any surveys on Rollins South. Moreover, the appellants were concerned that the applicant drew conclusions on the potential impacts of the proposed Rollins South portion of the project without having conducted studies at this location. The appellants also argue that the applicant was not required by the Department to submit a valid pre-construction wildlife survey or a pre-construction habitat plan prior to issuance of the Department Order. The argue that the project would negatively impact bald eagles and would violate the Bald and Golden Eagle Protection Act and the Migratory Bird Act, both of which are federal laws.

(4) In response to the concerns raised by the appellants regarding the impacts of the proposed project on wildlife, MDIFW stated that during the initial stages of the avian, bat and raptor survey effort, biologists offered survey advice to the applicant based on the understanding that the project would be constructed in two phases. The applicant was

advised to conduct all pre-construction avian, bat and raptor surveys in accordance with MDIFW's guidelines that are based on the "Methodologies for Evaluating Bird and Bat Interactions with Wind Turbines in Maine", dated April 12, 2006. When the applicant decided to combine both phases into one single project, the applicant again consulted with MDIFW regarding the need for two separate studies and, given the proximity between the two ridgelines, MDIFW wildlife biologists determined that passage rates and flight heights are similar for the two sites and that therefore, a separate study for Rollins South was not warranted. MDIFW concluded that the avian, bat and raptor survey effort that was conducted by the applicant was done in accordance with MDIFW's recommendations, it was consistent with other studies that have been conducted in Maine, and the results of the survey effort were also consistent with results from studies at other Maine sites.

Upon submittal of the NRPA application, MDIFW reviewed the avian, bat and raptor surveys that were conducted by the applicant and provided as part of this application. MDIFW concluded from this review that the avian, bat and raptor survey effort, which included eagles, was done in accordance with MDIFW's recommendations and is consistent with other wind power project studies that have been conducted in Maine, as well as with other projects around the country.

The applicant located one eagle nest, identified by MDIFW as BE468A, on Upper Pond, approximately one mile from the proposed turbine locations on Rollins South. This nest is situated outside the project area; however, it is located within close proximity to the project site. MDIFW commented that given the close proximity of this nest to the proposed project, the potential exists for negative impacts to the nest occupants, in particular, for fledging eaglets. MDIFW commented that there is little available precedent data upon which to base a risk assessment, however, given the likely presence of risk, MDIFW recommended that the applicant conduct a post-construction mortality study in order to determine the impacts of the project on all eagles in the vicinity of the project, as well as all other raptors. MDIFW further stated that this study is a key component of the project and must be tailored to specifically include provisions for evaluation of local eagle populations in addition to the more routine turbine-mortality survey recommendations.

In order to address concerns raised by MDIFW concerning avian, bat and raptor (including eagle) mortality and to assure that there will be minimal adverse effects from the project, in Department Order, the Department specifically required the applicant to conduct post-construction monitoring in consultation with MDIFW and the Department. The applicant submitted a draft post-construction monitoring protocol along with the NRPA application, outlining procedures to monitor avian and bat casualties, including raptor fatalities, in order to assess the impacts of the project on these species. MDIFW commented that the draft protocol is based on the rapidly evolving methods associated with post-construction assessment, and that the study will commence in the first year of the project's operation and will continue to evolve in consultation with MDIFW. In

accordance with the Department Order, the applicant is required to submit a finalized post-construction monitoring protocol to the Department for review and approval prior to beginning operation of the Rollins Wind Project. This study will be designed to provide information that can be used to off-set potential mortality due to project operation by implementing changes in the operation of the project.

In accordance with the Department Order, if the post-construction monitoring study demonstrates that the project is having an unreasonable adverse impact, as determined by the Department in consultation with MDIFW, the applicant must work with the Department and MDIFW to implement appropriate measures for avoiding, minimizing or mitigating continued impacts. Measures to be considered will take into account the most recent research findings concerning the causes of impacts. Such measures may include, but are not limited to: modified operations, on-site habitat management, and habitat protection. Additional measures may be considered depending on future research findings.

MDIFW commented that it does not expect the proposed project to negatively impact any other wildlife or any fishery resources specific to any of the lakes or ponds in the area, or the associated shoreline and riparian areas, provided that the applicant constructs the project in compliance with all project specific Best Management Practices (BMPs) as outlined in the habitat mitigation plan, which was reviewed and approved by both MDIFW and the Department.

The Department does not have the authority to consider the project with regard to the Bald and Golden Eagle Protection Act and the Migratory Bird Act, as these are federal laws administered by the United States Fish and Wildlife Service (USFWS).

(5) The Board finds that the applicant submitted adequate information and concurs with the Department's finding that the applicant has demonstrated that the project will avoid and minimize impacts to significant wildlife habitat to the greatest extent practicable, in accordance with the Significant Wildlife Habitat Rules, Chapter 335 (3)(A) & (B), and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project. The Board finds that the project will not have an unreasonable impact on significant wildlife habitat, in accordance with Chapter 335 (3)(C), the Significant Wildlife Habitat Rules and 38 M.R.S. §480-D (3), of the NRPA. The Board further finds that it does not have the authority to determine whether the project is in compliance with the Bald and Golden Eagle Protection Act and the Migratory Bird Act, as these are federal laws.

Based on the above findings, the Board concludes that:

1. The appellants filed a timely appeal.

2. The Board denies the request for a public hearing on this appeal.

3. The noise study that was submitted by RSE on behalf of the applicant adequately analyzes the noise likely to be produced by the project in accordance with 38 M.R.S. § 481 et seq. and Chapter 375 § 10. The proposed project, as conditioned by the Departmental Order, will comply with Chapter 375 section 10 and the Department finds that the applicant has made adequate provision for the control of noise from the proposed project.

4. The applicant adequately demonstrated that the proposed project will not unreasonably harm bald eagles or other wildlife.

THEREFORE, the Board AFFIRMS the Department Order approving the application of EVERGREEN WIND POWER III, LLC to construct the ROLLINS WIND PROJECT in towns of Lincoln, Lee, Winn, Burlington and Mattawamkeag, Maine and DENIES the appeal of the FRIENDS OF LINCOLN LAKES.

DONE AND DATED AT AUGUSTA, MAINE, THIS_____ DAY OF _____, 2009.

BOARD OF ENVIRONMENTAL PROTECTION

By: _____
Susan Lessard, Chair